

REMARKS

In response to the Official Office Action dated February 20, 2004, Applicant has amended independent claims 1 and 10. Applicant believes that these amendments distinguish the claimed invention from the prior art made of record by the Examiner and re-examination of this application is therefore respectfully requested.

The invention relates to a method of molding a hollow part, such as a column. The invention is particularly useful to form hollow parts with a square or non-circular cross-section. The molding apparatus includes an outer mold and an inner mold. The inner mold is made of a flexible material and has a hollow interior. During a forming step in the molding process, a rigid core piece is inserted into the inner mold to hold the inner mold in engagement with the inner mold and to prevent the inner mold from collapsing inward while the molded part is formed. Once the molded part is sufficiently gelled, the rigid core piece is removed and an extraction member is inserted into the interior of the inner mold. The extraction member has a surface area that is larger than the inner surface area of the inner mold. An applied vacuum causes the inner mold to separate the inner mold from the molded part and collapse inwardly against the extraction member so that the inner mold can be removed from the molded part.

Claims 1 and 10 have been amended to add a rigid core piece insertable into the interior of the inner mold during a forming step to hold the inner mold in engagement with the molded part and to prevent the inner mold from collapsing inward. The claim further recites an extraction member insertable into the inner mold following the forming step to remove the inner mold from the molded part. Thus, the core piece and extraction member in the claimed invention are interchangeable parts that are inserted into the inner molds at different points in the molding process. The prior art by the Examiner does not teach or suggest a molding apparatus having both a core piece and extraction member functioning as set forth in amended claims 1 and 10.

The patent to Bonet Sirera discloses a molding apparatus for molding fibrous cement tubes. The molding apparatus includes an outer mold and an expansible core. The expansible core includes a core member having radial projections and an expandable sleeve. During the forming step, a vacuum is applied to the core member to contract the expandable sleeve against the surface of the core member. The core member is rotated to shape the inner surface of the cement tube. After the tube is formed, pressure is applied to the core member to expand the sleeve and "squeeze" moisture from the cement tube.

The molding process described in Sirera differs in significant ways from the molding process using the claimed invention. In Bonet Sirera, the expandable core is analogous to the claimed inner mold, and the core piece is analogous to the extraction member. Bonet Sirera does not disclose a component analogous to the claimed core piece that supports the inner mold during the forming step of the molding process. In Bonet Sirera, the core piece does not hold the inner mold in engagement with the molded part during the forming step of the molding process. On the contrary, the inner mold, i.e., the expandable sleeve, is contracted during the first part of the forming process and then expanded by air pressure to engage the molded part to compress water from the molded part. Thus, the expandable sleeve is held in engagement with the inner surface of the molded part by air pressure, not by the core member. At no point in the molding process does the core piece hold the inner mold in engagement with the molded part.

The Pratt patent discloses a molding apparatus for molding plastic pipes similar in many respects to Bonet Sirera. The molding apparatus in Pratt includes an outer mold and an expandable core. The expandable core includes a core member having grooves in the outer surface thereof and an expandable sleeve. During the forming step of the molding process, pressure is applied to the interior of the core member to expand the sleeve into engagement with the inner surface of the molded part. Thus, the expandable sleeve is held in engagement with the inner surface of the molded part by air pressure. The core member in Pratt serves the

same function as the extraction member in the claimed invention. Pratt does not include any part equivalent to the claimed core piece that holds the inner mold in contact with the molded part during the forming step.

In short, the claimed invention recites both a rigid core piece to support the inner mold during the forming step of the molding process and an extraction member to remove the inner mold after the part is formed. The core piece and extraction member are interchangeable during different stages of the molding process. Both Bonet Sirera and Pratt include an expansible sleeve which is analogous to the inner mold of the claimed invention, and a core member which is analogous to the extraction member. Neither Bonet Sirera or Pratt disclose any structure equivalent to or analogous to the claimed core piece that holds the inner mold in engagement with the molded part during the molding process. Accordingly, it is believed that claims 1 and 10 are allowable over the prior art made of record.

Claims 23 and 24 have been added. Claim 23 depends from claim 1, and claim 24 depends from claim 10. Claims 23 and 24 recite that the inner surface of the inner mold and the outer surface of the core piece are tapered to facilitate removal of the core piece following the molding step. This feature is not disclosed in the prior art made of record by the Examiner. Accordingly, it is believed that claims 23 and 24 are patentable over the prior art made of record for this additional reason.

If for any reason the amendments and remarks do not place the application in condition for allowance, the undersigned attorney requests a telephone interview with the Examiner to

discuss any remaining issues.



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By:

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